

REMARKS

At the outset, the Examiner is thanked for the thorough review and consideration of the subject application. The Non-Final Office Action of November 6, 2003 has been received and its contents carefully reviewed.

Applicants hereby amend claims 1 and 10 and respectfully submit no new matter has been entered

In the Non-Final Office Action, the Examiner rejected claims 1-3, 6, and 10-13 under 35 U.S.C. §103(a) as being unpatentable over the related art illustrated in Figures 3 and 4 in view of Shin (U.S. Patent No. 6,259,504); and rejected claims 4, 5, 14, and 15 under 35 U.S.C. §103(a) as being unpatentable over the related art illustrated in Figures 3 and 4 in view of Shin and further in view of Shiba et al. (U.S. Patent No. 5,526,014). The rejections of these claims are traversed and reconsideration of the claims is respectfully requested in view of the following remarks.

The rejection of claims 1-3, 6, and 10-13 under 35 U.S.C. §103(a) as being unpatentable over the related art illustrated in Figures 3 and 4 in view of Shin is traversed and reconsideration is respectfully requested.

Independent claim 1 is allowable over the related art illustrated in Figures 3 and 4 in view of Shin in that claim 1 recites a combination of elements including, for example, “a liquid crystal panel having a plurality of gate and data lines and a plurality of sub-pixels... wherein sub-pixels are defined by the gate and data lines and correspond to red, green, blue and white color filters, respectively, wherein the color filters along the same data line have the same color, wherein adjacent ones of color filters along the same gate line have different colors, wherein the red, green, blue and white color filters constitute one pixel, and wherein a black matrix is arranged between each color filter.” Neither the related art illustrated in Figures 3 and 4 nor Shin, singly or in combination, teaches or suggest at least these features of the claimed invention. Accordingly, Applicants respectfully submit that claims 2, 3, and 6, which depend from claim 1, are also allowable over the related art illustrated in Figures 3 and 4 in view of Shin.

Independent claim 10 is allowable over the related art illustrated in Figures 3 and 4 in view of Shin in that claim 10 recites a combination of elements including, for example, “a first substrate having deposited thereon a plurality of color filters and a black matrix arranged

between each of the color filters, wherein the color filters have red, green, blue and white colors, respectively, and wherein the red, green, blue and white color filters constitute one pixel; a second substrate... having... a plurality of sub-pixels each formed at a crossing of one of the gate lines and data lines... wherein each sub-pixel corresponds to one of the color filters, wherein color filters along the same data line have the same color, and wherein adjacent ones of color filters along the same gate line have different colors.” Neither the related art illustrated in Figures 3 and 4 nor Shin, singly or in combination, teaches or suggest at least these features of the claimed invention. Accordingly, Applicants respectfully submit that claims 11-13, which depend from claim 10 are also allowable over the related art illustrated in Figures 3 and 4 in view of Shin.

Further, the Examiner states the related art illustrated in Figures 3 and 4 “described in the present application differs from the claimed invention because it does not explicitly disclose that the color filters are stripe-shaped such that color filters along the same data line have the same color and adjacent ones of color filters along the same gate line have different colors... [and because the related art shown in Figures 3 and 4] does not explicitly disclose that a black matrix is arranged between each color filter.” To cure the deficiencies of the related art illustrated in Figures 3 and 4, the Examiner relies upon Shin as allegedly disclosing “that typically color filters are arranged in one of several patterns such as... [a] stripe-pattern... (col. 1, lines 13-15)... [and wherein] the stripe type pixel arrangement ...includes a plurality of gate lines... and a plurality of data lines... and that the color filters along the same data line have the same color and adjacent ones... along the same gate line have different colors.”

Applicants respectfully submit, however, that Shin states at column 1, lines 13-17, “Therefore are typically a triangle arrangement, a stripe arrangement and a mosaic arrangement as a pixel arrangement method. The stripe type pixel arrangement method as shown in FIG. 1...” Accordingly, Applicants respectfully submit Shin fails to disclose “that typically color filters are arranged in one of several patterns such as... [a] stripe-pattern,” as asserted by the Examiner. Further, at column 1, lines 25-28, Shin discloses that “[t]he gate lines and the data lines are crosses each other to define pixel regions PS11-PS13. R, G, and B dots are respectively disposed in the pixel regions PS11-PS13, thereby constituting one pixel” and at column 1, lines 37-41, Shin teaches that “[i]n pixel

arrangement of FIG. 1, a red dot R, a green dot G and a blue dot B constituting one pixel are vertically arranged within a vertical stripe type. That is, each of R, G and B dots RD, GD and BD is straight arranged in the column direction... along the data line.” Accordingly, Applicants respectfully submit that, while Shin may reasonably teach a stripe-patterned arrangement of pixels, Shin does not teach or even suggest “color filters along the same data line [that] have the same color,” as implied by the Examiner as being inherently disclosed by Shin. More specifically, the mere fact that “dots” of a single color are vertically arranged within a vertical stripe pixel arrangement does not, in itself, indicate that a plurality of color filters are arranged along the same data line, as required by the presently claimed invention. Further, Applicants respectfully submit that Shin fails to define, either expressly or impliedly, wherein the a “dot” is actually consistent with a color filter. Interpreting Shin as teaching a plurality of color filters along the same data line, as opposed to, for example, a single color filter arranged over a column of vertically arranged pixels, without any rationale for supporting such an interpretation would involve impermissible use of hindsight reasoning.

In concluding the rejection, the Examiner concludes that “[Shin] is evidence that ordinary workers in the art would find a reason, suggestion or motivation to use stripe type pixel arrangement in a liquid crystal display” and “[t]herefore, it would have been obvious to ...modify the display device of the... [related art illustrated in Figures 3 and 4] by having stripe-shaped pixel arrangement such as color filters along the same data line have the same color and adjacent ones of color along the same gate lines have different colors to avail a common and known pixel arrangement.” The Examiner further concludes that “forming black matrix between each color filter is common and known in the art for several reasons... and thus would have been obvious.”

Assuming *arguendo* that Shin actually cures the deficiencies of the related art illustrated in Figures 3 and 4 by teaching the alleged color filter arrangement as presently claimed, Applicants respectfully submit that mere fact that a reference discloses an element of a claim does not, by itself, provide a reason or motivation of obviousness for inserting that element into a system disclosed in another reference. Rather, the test of whether it would have been obvious to select specific teachings and combine them to arrive at a claimed invention must still be met by identification of some objective suggestion, teaching, or motivation in the reference, arising from what the reference would have taught a person or

ordinary skill in the art. Accordingly, Applicants respectfully submit that merely alleging the existence of a “common and known pixel arrangement” wherein “color filters along the same data line have the same color and adjacent ones of color filters along the same gate line have different colors” fails to suitably identify an objective suggestion, teaching, or motivation for combining the references. Absent such an objective suggestion, teaching, or motivation, Applicants respectfully submit that the teachings of the related art illustrated in Figures 3 and 4 and of Shin have merely been combined using impermissible hindsight reasoning.

Moreover, and while not using the words “Official Notice”, it appears as though the Examiner is attempting to cure the deficiencies of the related art illustrated in Figures 3 and 4 in view of Shin while asserting commonly known practice of “forming black matrix between each color filter.” The Examiner may take Official Notice of facts outside of the record that are capable of instant and unquestionable demonstration as being “well-known” in the art. *In re Ahlert*, 424 F.2d 1088, 1091, 165 USPQ 418, 420 (CCPA 1970). As set forth in M.P.E.P. § 2144.03, however, if an applicant traverses an assertion made by an Examiner while taking Official Notice, the Examiner should cite a reference in support of their assertion. Accordingly, Applicant seasonably traverses the use of Official Notice and respectfully, requests the Examiner to provide a reference to support their assertions or an affidavit.

In view of at least the arguments set forth above, Applicants respectfully submit a *prima facie* case of obviousness has not been established with respect to the claimed invention and respectfully request that the Examiner withdraw the rejection under 35 U.S.C. §103(a).

The rejection of claims 4, 5, 14, and 15 under 35 U.S.C. §103(a) as being unpatentable over the related art illustrated in Figures 3 and 4 in view of Shin and further in view of Shiba et al. is traversed and reconsideration is respectfully requested.

Claims 4 and 5 include all of the elements of claim 1 as discussed above, and the related art illustrated in Figures 3 and 4 in view of Shin fails to teach or suggest at least the features of independent claim 1 as recited above. Similarly, Shiba et al. fails to cure the deficiencies of the related art illustrated in Figures 3 and 4 in view of Shin. Accordingly, Applicants respectfully submit that the Examiner has not established a *prima facie* case of obviousness regarding claims 4 and 5 in view of claim 1, as above.

Application No.: 09/784,093

Amendment dated February 5, 2004

Reply to non-final Office Action dated November 6, 2003

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Claims 14 and 15 include all of the elements of claim 10 as discussed above, and the related art illustrated in Figures 3 and 4 in view of Shin fails to teach or suggest at least the features of independent claim 10 as recited above. Similarly, Shiba et al. fails to cure the deficiencies of the related art illustrated in Figures 3 and 4 in view of Shin. Accordingly, Applicants respectfully submit that the Examiner has not established a *prima facie* case of obviousness regarding claims 14 and 15 in view of claim 10, as above.

If the Examiner deems that a telephone conversation would further the prosecution of this application, the Examiner is invited to call the undersigned at (202) 496-7500.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. §1.136, and any additional fees required under 37 C.F.R. §1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

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Claims 14 and 15 include all of the elements of claim 10 as discussed above, and the related art illustrated in Figures 3 and 4 in view of Shin fails to teach or suggest at least the features of independent claim 10 as recited above. Similarly, Shiba et al. fails to cure the deficiencies of the related art illustrated in Figures 3 and 4 in view of Shin. Accordingly, Applicants respectfully submit that the Examiner has not established a *prima facie* case of obviousness regarding claims 14 and 15 in view of claim 10, as above.

If the Examiner deems that a telephone conversation would further the prosecution of this application, the Examiner is invited to call the undersigned at (202) 496-7500.

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